



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,893	08/30/2001	Hironori Sumitomo	15162/03910	9827
24367	7590	03/13/2006	EXAMINER	
SIDLEY AUSTIN LLP 717 NORTH HARWOOD SUITE 3400 DALLAS, TX 75201			AGGARWAL, YOGESH K	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/942,893

Applicant(s)

SUMITOMO ET AL.

Examiner

Yogesh K. Aggarwal

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/13/2005 has been entered.

Response to Arguments

2. Applicant's arguments filed 12/13/2005 have been fully considered but they are not persuasive.

Examiner's response:

3. Applicant argues with regards to claims 1 and 13 that Kawaoka does not show or suggest "a controller" that controls the image picked up by the image pick-up element so as to pick up a plurality of images of an object different in photographing condition. The Examiner respectfully disagrees. Kawaoka clearly shows a CPU 55 (figure 7) that controls the image taking apparatus so as to pick up a plurality of images of different objects different in photographing condition. Applicant argues with regards to claims 1 and 13 that Kawaoka teaches picking only images of multiple objects being composed into an image including separate image spaces (Fig. 15) for the images of each object but does not teach picking up a plurality of images of **an object** different in photographing condition. The Examiner respectfully disagrees. Applicant's specification does not describe taking the images of the **same object** being synthesized. Furthermore, even if the

Art Unit: 2615

images of the multiple objects are being synthesized, it will be very well within the scope of one skilled in the art to have images of the same object to be synthesized instead of images of multiple objects being composed into an image. Finally, the images have to be composed into multiple spaces otherwise they would not be visible.

4. Applicant argues that Kawaoka does not teach an image-number specifying device which specifies the number of images to be used for creating a composite image of the object from among said plurality of images. The Examiner respectfully disagrees. Kawaoka clearly teaches teaches that a synthesis area number N representing the order in which the images are synthesized with the synthesis areas is set (col. 13 lines 5-8) and an image represented by the image data corresponding to the synthesis area number N is synthesized with the N-th synthesis area (col. 13 lines 29-32) and therefore reads on an image-number-specifying device (55) which specifies the number of images to be used for creating a composite image.

5. Applicant argues that Okauchi fails to teach the newly added limitation “a reception part for accepting a voluntary selection by a user between one of image quality priority and processing speed priority”. The Examiner respectfully disagrees. Okauchi clearly teaches that during the normal mode of operation, the photographer can select one of the “normal mode” and “high quality mode” using the mode selection switch 5. The normal mode is a normal photographing mode, and the high-image quality mode is a photographing mode for obtaining an image with higher image quality than that obtained in the normal mode by extracting one or a plurality of images from an object image and synthesizing the extracted images (col. 4 lines 28-36). During ‘normal’ mode only one image is picked up unless the user is not satisfied with the image and a plurality of images are taken (col. 4 line 37-col. 5 line 50). It is noted that the

Art Unit: 2615

normal mode is a high-speed mode because one image is taken. However in high quality mode the number of images can be 4 or 9 depending upon the size of the image, which is therefore slower (col. 5 line 51-col. 7 line 7). Therefore Okauchi does teach a reception part for accepting a voluntary selection by a user between one of image quality priority and processing speed priority.

6. Applicant argues that Okauchi fails to teach an image pickup number controller which variably sets a number of images to be picked up by said image pick-up element according to accepted priority of image quality or processing speed. The Examiner respectfully disagrees. During 'normal' mode only one image is picked up unless the user is not satisfied with the image and a plurality of images are taken (col. 4 line 37-col. 5 line 50). It is noted that the normal mode is a high-speed mode because only one image is taken. However in high quality mode the number of images can be 4 or 9 depending upon the size of the image, which is therefore slower (col. 5 line 51-col. 7 line 7). Therefore an image-pick-up number controller (30) controls the number of images being picked up by said image pick-up element based upon the relative priorities of speed (during 'normal' mode) and quality (during 'high quality' mode).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2615

8. Claims 1, 3, 4, 13, 15 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawaoka et al. (US Patent # 6,801,251).

[Claims 1 and 13]

Kawaoka et al. teaches an image taking apparatus (figures 6-17), comprising an image pick-up element (13), a CPU 55 (figure 7) that controls the image taking apparatus so as to pick up a plurality of images of different objects different in photographing condition (different photographing conditions are read as scene of entrance, scene of cake cutting etc. , col. 11 line 65-col. 12 line 13) [it will be very well within the scope of one skilled in the art to have images of the same object to be synthesized instead of images of multiple objects being composed into an image], an image memory (56) which temporarily stores said plurality of images picked up by said image pick-up element (col. 13 lines 9-16, figure 17 step 92). Kawaoka teaches that a synthesis area number N representing the order in which the images are synthesized with the synthesis areas is set (col. 13 lines 5-8) and an image represented by the image data corresponding to the synthesis area number N is synthesized with the N-th synthesis area (col. 13 lines 29-32) and therefore reads on an image-number-specifying device (55) which specifies the number of images to be used for creating a composite image. Kawaoka further teaches that all the images are stored in a memory 56 after transferring from a memory card and then images that are to be synthesized are selected from among said plurality of images stored in the memory 56 (col. 13 lines 16-24). Kawaoka teaches that one frame of an image which is used for synthesizing a composite image is determined for each of the scenes while each frame of an image is being displayed on the display device 29 of the digital camera (col. 12 lines 20-35) and an image

Art Unit: 2615

composer which creates said composite image by composing images of said number of images specified by said image-number specifying device (col. 13 lines 40-48).

[Claims 3 and 15]

The maximum number of images that can be specified by the image-number-specifying device used for creating a composite image that can be stored in the memory 56 cannot exceed the maximum number of images that the memory card can store because the capacity of the card is full. For example, if the number of images that a memory card can store is 4 then the maximum number of images specified for creating a composite image cannot exceed 4 because that's the maximum the memory can store.

[Claims 4 and 16]

Kawaoka teaches a display device for displaying images sequentially (col. 13 lines 22-24).

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Okauchi (US Patent # 5,907,353).

[Claim 8]

Okauchi teaches an image taking apparatus (figure 1), comprising an image pick-up element (figure 1, element 25), which picks up a plurality of images different in photographing condition (col. 3 lines 52-54, Different photographing conditions are referred to as 'normal' and 'high

Art Unit: 2615

quality', read col. 3 lines 20-21). Okauchi further teaches that during the normal mode of operation, the photographer can select one of the "normal mode" and "high quality mode" using the mode selection switch 5. The normal mode is a normal photographing mode, and the high-image quality mode is a photographing mode for obtaining an image with higher image quality than that obtained in the normal mode by extracting one or a plurality of images from an object image and synthesizing the extracted images (col. 4 lines 28-36). During 'normal' mode only one image is picked up unless the user is not satisfied with the image and a plurality of images are taken (col. 4 line 37-col. 5 line 50). It is noted that the normal mode is a high-speed mode because only one image is taken. However in high quality mode the number of images can be 4 or 9 depending upon the size of the image, which is therefore slower (col. 5 line 51-col. 7 line 7). Therefore an image-pick-up number controller (30) controls the number of images being picked up by said image pick-up element based upon the relative priorities of speed (during 'normal' mode) and quality (during 'high quality' mode) and an image composer which creates said composite image by composing images of said number of images specified by said image-pick up number controller (col. 6 lines 56-67).

[Claim 9]

Okauchi teaches an image memory (40), which temporarily stores said plurality of images picked up by said image pick-up element (col. 6 lines 28-51).

[Claim 10]

The maximum number of images that can be specified by the image-number-specifying device used for creating a composite image that can be stored in the memory card 36 cannot exceed the maximum number of images that the memory card can store because the capacity of the card is

Art Unit: 2615

full. For example, if the number of images that a memory card can store is 4 then the maximum number of images specified for creating a composite image cannot exceed 4 because that's the maximum the memory can store.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaoka (US Patent # 6,801,251) in view of Shen et al. (US Patent # 6,122,411).

[Claims 2 and 14]

Kawaoka teaches the limitations of claim 1 but fails to teach "wherein the number of images to be stored in said image memory is decided by capacity of said image memory and image size".

However Shen et al. teaches that the number of images to be stored in said image memory is decided by capacity of said image memory and image size (col. 4 lines 16-35).

Therefore taking the combined teachings of Kawaoka and Shen it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have the number of images to be stored in said image memory be decided by capacity of said image memory and image size in order to use the memory efficiently. The benefit of doing so would be to control the utilization of memory space in such a way that the memory space can be used efficiently and in a cost-effective manner.

Art Unit: 2615

13. Claim 5, 6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaoka (US Patent # 6,801,251) in view of Okauchi et al. (US Patent # 5,907,353).

[Claims 5, 6, 17, 18]

Kawaoka fails to teach a selector for specifying one of photographing modes including a mode, which gives priority to quality of image, and a mode, which gives priority to speed and a controller for automatically setting the number of images to be stored in said image memory depending on a specified photographing mode.

However Okauchi teaches a selector (figure 1, element 5) for specifying one of photographing modes like a 'high quality mode' and a 'normal quality mode' (col. 4 lines 28-36), which would inherently require it to give priority to higher quality during 'high quality mode' and priority to speed during 'normal quality mode' because the number of images to be synthesized are lesser and a controller for automatically setting the number of images to be stored in said image memory depending on a specified photographing mode (col. 9 lines 21-32, col. 9 lines 52-62) (Either 4 or 9 images can be specified depending upon a focus evaluation mode as shown in figure 4) in order to obtain an image with higher quality than that obtained in the normal mode by extracting one or a plurality of images from an object image and synthesizing the extracted images.

Therefore taking the combined teachings of Okauchi and Shen it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a selector for specifying one of photographing modes including a mode which gives priority to quality of image and a mode which gives priority to speed and a controller for automatically setting the number of images to be stored in said image memory depending on a specified

Art Unit: 2615

photographing mode in order to obtain an image with higher quality than that obtained in the normal mode by extracting one or a plurality of images from an object image and synthesizing the extracted images.

14. Claims 7 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaoka (US Patent # 6,801,251), Okauchi (US Patent # 5,907,353) and in further view of Shen et al. (US Patent # 6,122,411).

[Claims 7 and 19]

Kawaoka in view of Okauchi teach the limitations of claim 6 but fails to teach “wherein the number of images to be stored in said image memory is the maximum number of images that said image memory can store when said mode which give priority to quality of image is specified”.

However Shen et al. teaches a condition when the high resolution mode is specified (corresponding to a mode which gives priority to the quality of image) and there is not enough space to take any more high resolution pictures (maximum number of images that said image memory can store for the ‘high resolution mode’) but there is space for storing at least one more low resolution picture. When this condition is reached the camera automatically switches to a low-resolution mode after storing the maximum number of images in the high-resolution mode (col. 3 lines 59-67, col. 4 lines 1-35).

Therefore taking the combined teachings of Kawaoka, Okauchi and Shen it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have the number of images to be stored in said image memory being the maximum number of images that said image memory can store when said mode which give priority to quality of image is

Art Unit: 2615

specified in order to utilize the memory space efficiently. The benefit of doing so would be to store both low and high-resolution images (corresponding to different number of pixels) in the memory as long as there is space available in the memory as taught in Shen (col. 3 lines 60-63).

15. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okauchi (US Patent # 5,907,353) in view of Shen et al. (US Patent # 6,122,411).

[Claim 11]

Okauchi fails to teach wherein the number of pixels to be picked up is capable of being specified, and wherein the number of images to be set by said image-pick-up-number controller is determined by the number of pixels specified and capacity of said image memory. However Shen et al. teaches that the number of pixels to be picked up is capable of being specified, and wherein the number of images to be set by said image-pick-up-number controller is determined by the number of pixels specified and capacity of said image memory (col. 4 lines 16-35, The image size is directly related to the number of pixels specified for a low or high resolution image). Therefore taking the combined teachings of Okauchi and Shen, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have that the number of pixels to be picked up is capable of being specified, and wherein the number of images to be set by said image-pick-up-number controller is determined by the number of pixels specified and capacity of said image memory in order to use the memory efficiently. The benefit of doing so would be to control the utilization of memory space in such a way that the memory space can be used efficiently and in a cost-effective manner.

[Claim 12]

Art Unit: 2615

Okauchi fails to teach “a controller which discriminates whether it is possible to store images by the number of images set by said image-pick-up-number controller in said image memory, and controls so as not to pick up images when it is discriminated to be impossible to store said images”. However Shen et al. teaches a 4-bit MPU 34 that can keep track of how many more pictures of high and low resolution can be stored in the camera memory and when it is impossible to store any more images of each resolution it displays ‘0’ (col. 4 lines 17-35). Therefore taking the combined teachings of Okauchi and Shen it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a controller which discriminates whether it is possible to store images by the number of images set by said image-pick-up-number controller in said image memory, and controls so as not to pick up images when it is discriminated to be impossible to store said images in order to use the memory space more efficiently. The benefit of doing so would be to store both low and high-resolution images (corresponding to different number of pixels) in the memory as long as there is space available in the memory as taught in Shen (col. 3 lines 60-63).

16. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaoka (US Patent # 6,801,251).

[Claim 20]

Kawaoka teaches that one frame of an image which is used for synthesizing a composite image is determined for each of the scenes while each frame of an image is being displayed on the display device 29 of the digital camera. Image data, which is not used for synthesizing is being deleted from the image storage file in response to an inputted command (col. 12 lines 20-35). The Examiner notes that by selecting the frames for synthesizing a composite image and deleting the

Art Unit: 2615

other frames, a number of images are selected for synthesizing. It would be obvious to one skilled in the art that a user would have to select a representative frame from among the frames stored and issue a delete command for other commands in order to have an image that is likable to the user for a given composite image.

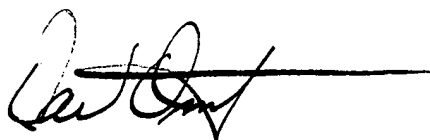
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA
March 5, 2006



DAVID OMETZ
SUPERVISORY PATENT EXAMINER